Date: Mon, 28 Feb 94 05:43:17 PST
From: Info-Hams Mailing List and Newsgroup <info-hams@ucsd.edu>
Errors-To: Info-Hams-Errors@UCSD.Edu
Reply-To: Info-Hams@UCSD.Edu
Precedence: Bulk
Subject: Info-Hams Digest V94 #219
To: Info-Hams

Info-Hams Digest Mon, 28 Feb 94 Volume 94 : Issue 219

Today's Topics:
Daily Summary of Solar Geophysical Activity for 25 February
Weekly Solar Terrestrial Forecast & Review for 25 February

Send Replies or notes for publication to: <Info-Hams@UCSD.Edu>
Send subscription requests to: <Info-Hams-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Info-Hams Digest are available
(by FTP only) from UCSD.Edu in directory "mailarchives/info-hams".

We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: Fri, 25 Feb 1994 23:58:08 MST
From: ihnp4.ucsd.edu!swrinde!gatech!newsxfer.itd.umich.edu!nntp.cs.ubc.ca!alberta!
ve6mgs!usenet@network.ucsd.edu
Subject: Daily Summary of Solar Geophysical Activity for 25 February
To: info-hams@ucsd.edu

/\

DAILY SUMMARY OF SOLAR GEOPHYSICAL ACT

25 FEBRUARY, 1994

/\

(Based In-Part On SESC Observational Data)

SOLAR AND GEOPHYSICAL ACT

!!BEGIN!! (1.0) S.T.D. Solar Geophysical Data Broadcast for DAY 056, 02/25/94

10.7 FLUX=096.7 90-AVG=107   SSN=053   BKI=2243 2322 BAI=011
BGND-XRAY=B2.1   FLU1=4.0E+06 FLU10=1.9E+04 PKI=1254 2232 PAI=014
  BOU-DEV=016,014,065,028,010,023,014,019   DEV-AVG=023 NT   SWF=00:000
 XRAY-MAX= C1.4   @ 0418UT   XRAY-MIN= B1.6   @ 2328UT   XRAY-AVG= B3.8
NEUTN-MAX= +002% @ 2100UT   NEUTN-MIN= -004% @ 0325UT NEUTN-AVG= -0.3%
  PCA-MAX= +0.3DB @ 1110UT   PCA-MIN= -0.2DB @ 0955UT   PCA-AVG= +0.1DB
BOUTF-MAX=55352NT @ 0642UT   BOUTF-MIN=55314NT @ 1914UT BOUTF-AVG=55335NT
GOES7-MAX=P:+000NT@ 0000UT   GOES7-MIN=N:+000NT@ 0000UT G7-AVG=+067,+000,+000
GOES6-MAX=P:+118NT@ 1848UT   GOES6-MIN=N:-091NT@ 0815UT G6-AVG=+090,+038,-032
 FLUXFCST=STD:095,095,095;SESC:095,095,095 BAI/PAI-FCST=010,008,008/010,008,008
    KFCST=3223 4222 2223 4322 27DAY-AP=008,009   27DAY-KP=1233 3212 3123 3332
 WARNINGS=
   ALERTS=
!!END-DATA!!

NOTE: The Effective Sunspot Number for 24 FEB 94 was 38.5.
      The Full Kp Indices for 24 FEB 94 are: 1o 1+ 1o 2-   2+ 1+ 2- 1-
      The 3-Hr Ap Indices for 24 FEB 94 are: 4   5   4   6 10   5   7   3
      Greater than 2 MeV Electron Fluence for 25 FEB is: 2.2E+08

SYNOPSIS OF ACT

      Solar activity was low. Only one C-class flare occurred during the period which was not correlated optically with any region. A 5 degree filament near S30E42 disappeared between 25/0027Z and 25/1421Z and an 11 degree filament disappeared between 25/0810Z and 25/0824Z near N11W71. A new region was assigned today as Region 7679 (N02E25).

STD: Moderate Ca XV emissions were observed on the northwest limb from the same area which had extremely intense emissions two weeks ago. A full-disk Yohkoh x-ray image has been appended to this report showing the location of the enhanced west-limb x-ray emissions and the associated location of the Ca XV emissions.

Solar activity forecast: solar activity is expected to be low.

The geomagnetic field has been at quiet to unsettled levels for the past 24 hours. An isolated period of active levels occurred during the nighttime sectors at mid-latitudes with minor to major storm levels at high-latitudes.

Geophysical activity forecast: the geomagnetic field is expected to be quiet to unsettled through the period.

Event probabilities 26 feb-28 feb

Class M	05/05/05
Class X	01/01/01
Proton	01/01/01
PCAF	Green

Geomagnetic activity probabilities 26 feb-28 feb

A. Middle Latitudes	
Active	15/15/15
Minor Storm	05/05/05
Major-Severe Storm	01/01/01

B. High Latitudes	
Active	20/20/20
Minor Storm	10/10/10
Major-Severe Storm	05/05/05

HF propagation conditions were near-normal over all regions. A brief period of enhanced activity between 06:00 and 12:00 UTC resulted in minor signal degradation for affected high-latitude paths, although conditions improved to normal thereafter. Normal propagation conditions will persist throughout the next 72 hours, through 28 February inclusive.

COPIES OF JOINT USAF/NOAA SESC SOLAR GEOPHYSICAL REPORTS
==========

REGIONS WIT

NMBR	LOCATION	LO	AREA	Z	LL	NN	MAG TYPE
7671	N11W82	191	0190	DAO	05	004	BET
7675	S11E03	106	0030	CSO	05	003	BET
7678	S15E62	047	0100	HSX	02	001	ALPHA
7679	N02E25	084	0010	BXO	03	005	BET
7674	S14W56	165					PLAGE
7676	N08E14	095					PLAGE
7677	N20W51	160					PLAGE

REGIONS DUE TO RET

NMBR	LAT	
7666	N18	350

LISTING OF SOLAR ENERGETIC EVENTS FOR 25 FEBRUARY, 1994

BEGIN MAX END RGN   LOC   XRAY OP 245MHZ 10CM   SWEEP
 0216 0217 0217   140

POSSIBLE CORONAL MASS EJECTION EVENTS FOR 25 FEBRUARY, 1994

 BEGIN   MAX   END   LOCATION   TYPE   SIZE DUR II IV
25/A0027   B1421   S30E42   DSF
25/0140   0424   0526   LDE   C1.4 226
25/0810   0824   N11W71   DSF
25/1133   1201   1243   LDE   B8.1   70

INFERRED CORONAL HOLES: LOCATIONS VALID AT 25/2400Z

               ISOLATED HOLES AND POLAR EXT
      EAST   SOUTH WEST   NORTH CAR TYPE POL AREA   OBSN
63   S26W56 S32W62 S08W76 S08W76 184 ISO   POS   007 10830A
64   N60W22 N20W90 N24W90 N60W22 168 EXT
65   S34E16 S34E16 S08W12 S08W12 115 ISO   POS   000 10830A

SUMMARY OF FLARE EVENTS FOR THE PREVIOUS UTC DAY

 Date   Begin Max   End Xray Op Region Locn   2695 MHz 8800 MHz 15.4 GHz
------ ---- ---- ---- ---- -- ------ ------ --------- --------- ---------
24 Feb: 0311 0315 0323 B4.6
        0756 0836 0903 B2.9
        1757 1833 1900 C2.9
        2111 2117 2121   SF 7670 N12W66

REGION FLARE STATISTICS FOR THE PREVIOUS UTC DAY

                C   M   X   S   1   2   3   4   Total   (%)
               -- -- --   -- -- -- -- --   --- ------
  Region 7670: 0   0   0   1   0   0   0   0   001 (25.0)
Uncorrellated: 1   0   0   0   0   0   0   0   003 (75.0)

 Total Events: 004 optical and x-ray.

EVENTS WIT

 Date   Begin Max   End Xray Op Region Locn   Sweeps/Optical Observations

------ ---- ---- ---- ---- -- ------ ------ --------------------------

NO EVENTS OBSERVED.

NOTES:

All times are in Universal Time (UT). Characters preceding begin, max, and end times are defined as: B = Before, U = Uncertain, A = After. All times associated with x-ray flares (ex. flares which produce associated x-ray bursts) refer to the begin, max, and end times of the x-rays. Flares which are not associated with x-ray signatures use the optical observations to determine the begin, max, and end times.

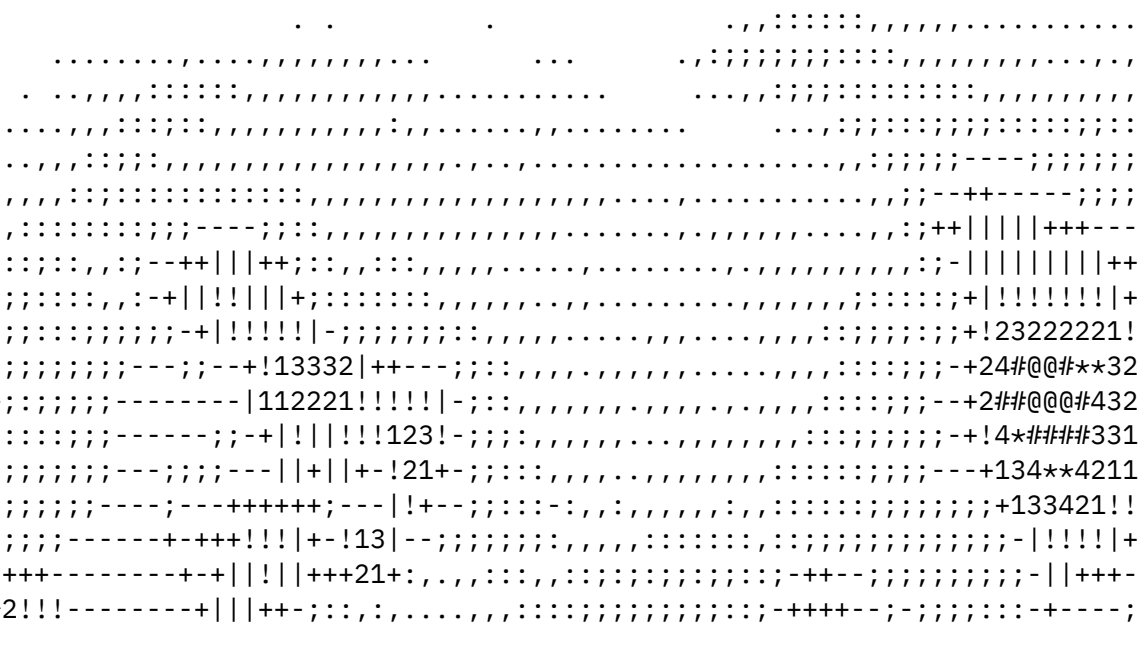
Acronyms used to identify sweeps and optical phenomena include:

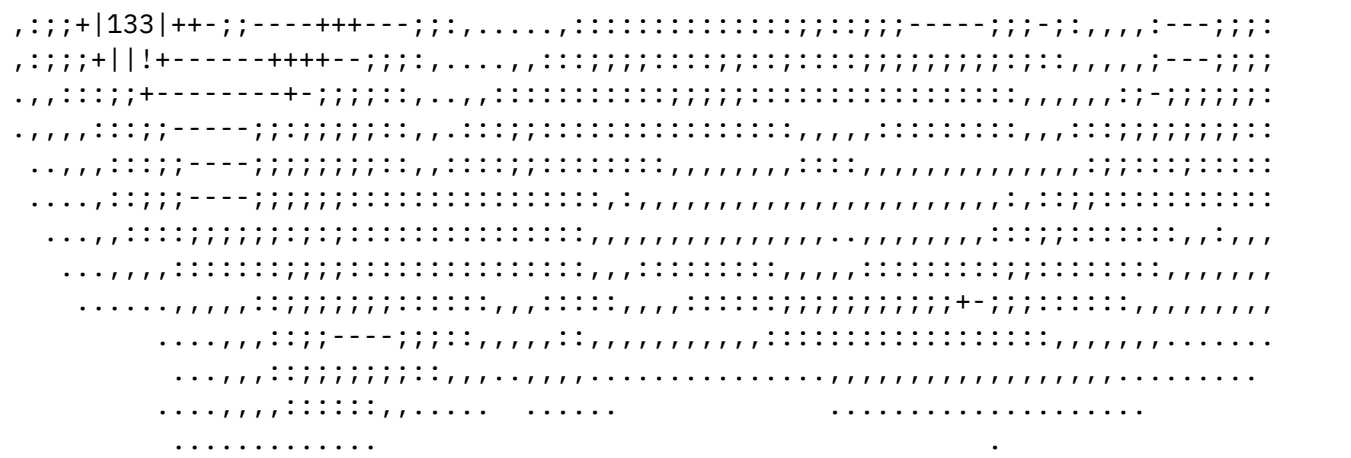
II	= Type II Sweep Frequency Event
III	= Type III Sweep
IV	= Type IV Sweep
V	= Type V Sweep
Continuum	= Continuum Radio Event
Loop	= Loop Prominence System,
Spray	= Limb Spray,
Surge	= Bright Limb Surge,
EPL	= Eruptive Prominence on the Limb.

SPECIAL INSERT: CURRENT X-RAY EMISSIONS FROM THE JAPANESE YOHKOH SPACECRAFT

25 February 1994, 03:30 UTC

North





South

KEY: East and west limbs are to the left and right respectively. Emission
strength, from minimum to maximum are coded in the following way:

[space] . , : ; - + | ! 1 2 3 4 * # @

Units used are arbitrary, for illustrative purposes. Get "showasc.zip"
from "pub/solar/Software" at the anonymous FTP site: ftp.uleth.ca
(IP # 142.66.3.29) to view these images on VGA screens. Remove
all but the image data before typing "showasc filename".

** End of Daily Report **

Date: Fri, 25 Feb 1994 15:00:37 MST
From: ihnp4.ucsd.edu!swrinde!gatech!newsxfer.itd.umich.edu!nntp.cs.ubc.ca!alberta!
ve6mgs!usenet@network.ucsd.edu
Subject: Weekly Solar Terrestrial Forecast & Review for 25 February
To: info-hams@ucsd.edu

--- SOLAR TERRESTRIAL FORECAST AND REVIEW ---
February 25 to March 06, 1994

Report Released by Solar Terrestrial Dispatch
P.O. Box 357, Stirling, Alberta, Canada
T0K 2E0
Accessible BBS System: (403) 756-3008

ANNOUNCEMENT: The Solar Terrestrial Dispatch is pleased to announce the

release of a major HF and refractive-VHF propagation software package known as SKYCOM. It is a MUST-HAVE for anyone involved in ionospheric radio communications. This significant software package will analyze almost every ionospheric parameter relavent to radio communications and will analyze the behavior and characteristics of signals that pass between any two points on the Earth and under almost any type of geophysical condition (geomagnetic storming, solar flares, polar cap absorption, etc). Graphically ray trace signals through a real model of the ionosphere, generate extensive global ionospheric "weather" maps, produce broadcast coverage maps, and MUCH more. The list of available functions is far too large to list here. For more information, contact "Oler@Rho.Uleth.CA", or "COler@Solar.Stanford.Edu". Pricing information can be obtained from the e-mail address above, by writing to us through postal mail, or by calling the recorded message at: 403-756-2386 (approx. 3 min). A special offer applies until 31 March 1994.

SOLAR AND GEOPHYSICAL ACT

	10.7 cm	HF Propagation						+/-	CON	SID				AU.	BKSR		DX		Mag	Aurora		
	SolrFlx	LO	MI	HI	PO	SWF	%MUF		%	ENH	LO	MI	HI	LO	MI	HI		%	K Ap	LO	MI	HI
25	098	VG	G	F	F	15	-10		75	15	NA	NA	NA	00	05	15	35		2 10	NV	NV	LO
26	093	VG	G	F	F	15	-10		75	15	NA	NA	NA	00	05	15	35		2 08	NV	NV	LO
27	090	VG	G	F	F	15	-05		75	15	NA	NA	NA	00	05	15	35		2 08	NV	NV	LO
28	090	VG	G	F	F	15	-05		75	15	NA	NA	NA	00	05	15	35		2 08	NV	NV	LO
01	090	VG	G	F	F	15	00		70	15	NA	NA	NA	01	10	15	35		3 12	NV	NV	LO
02	090	VG	G	F	F	15	00		70	15	NA	NA	NA	01	10	15	35		2 10	NV	NV	LO
03	090	VG	G	F	F	15	00		70	15	NA	NA	NA	01	10	20	35		3 12	NV	NV	LO
04	090	VG	F	P	P	15	-05		65	15	NA	NA	NA	02	20	30	30		4 20	NV	LO	MO
05	090	G	P	VP	VP	15	-20		65	15	NA	NA	NA	05	40	50	25		6 35	NV	MO	HI
06	090	G	P	VP	VP	15	-35		65	15	NA	NA	NA	05	40	50	20		6 40	NV	MO	HI

PEAK PLANETARY 10-DAY GEOMAGNETIC ACT

EXT													
VERY SEVERE STORM												HIGH	
SEVERE STORM												MODERATE	
MAJOR STORM										*	**	LOW - MOD.	
MINOR STORM										***	***	LOW	
VERY ACT													
ACT													
UNSETTLED	**	**	**	**	***	***	***	***	***	***		NONE	
QUIET	***	***	***	***	***	***	***	***	***	***		NONE	
VERY QUIET	***	***	***	***	***	***	***	***	***	***		NONE	

Geomagnetic Field Conditions	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Anomaly Intensity
	Given in 8-hour UT intervals										

CONFIDENCE LEVEL: 65%

NOTES:
Predicted geomagnetic activity is based heavily on recurrent phenomena. Transient energetic solar events cannot be predicted reliably over periods in excess of several days. Hence, there may be some deviations from the predictions due to the unpredictable transient solar component.

60-DAY GRAPHICAL ANALYSIS OF GEOMAGNETIC ACT

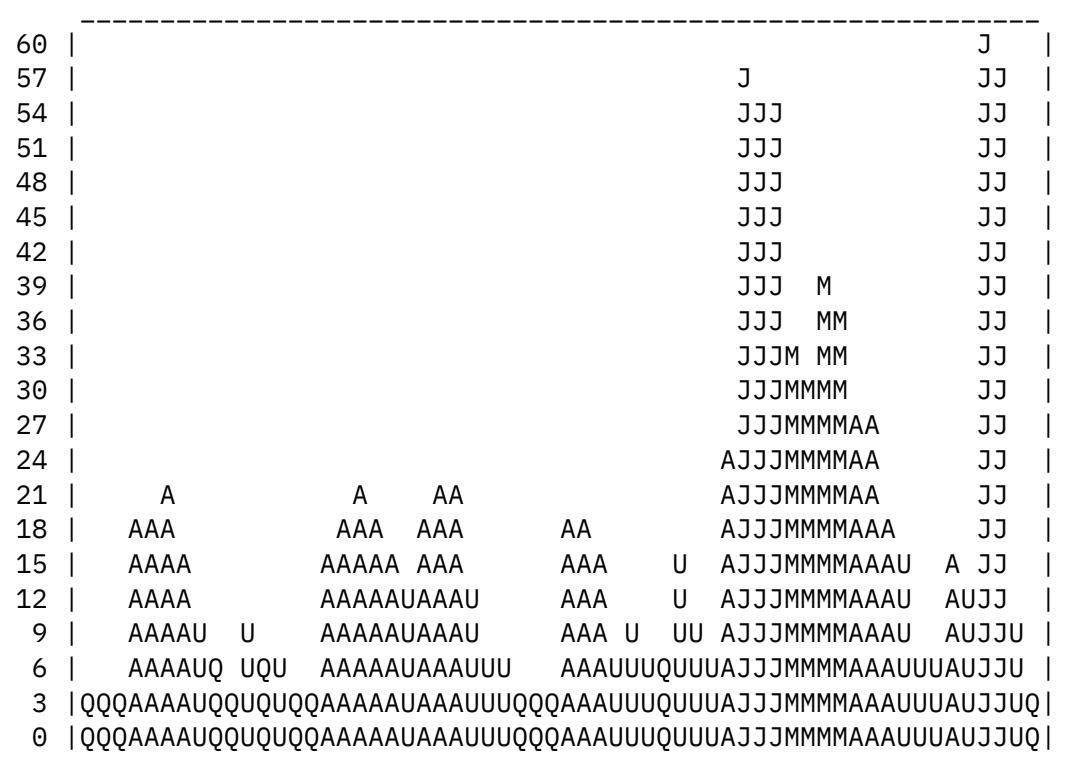
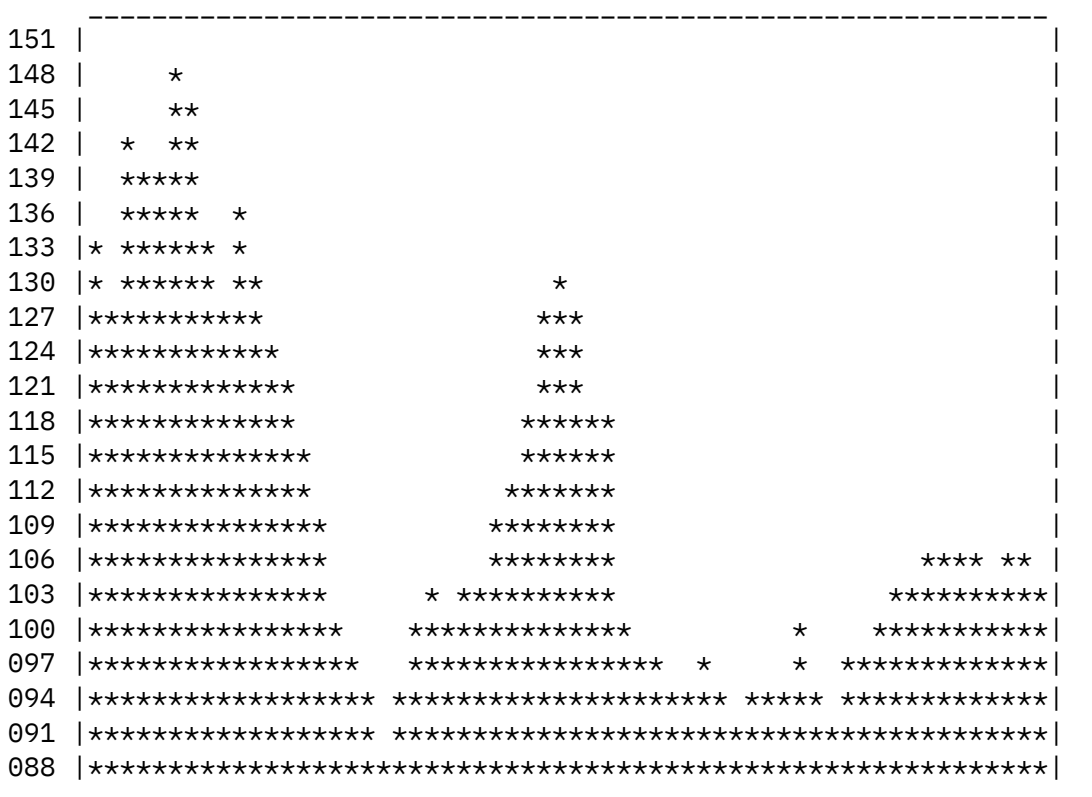


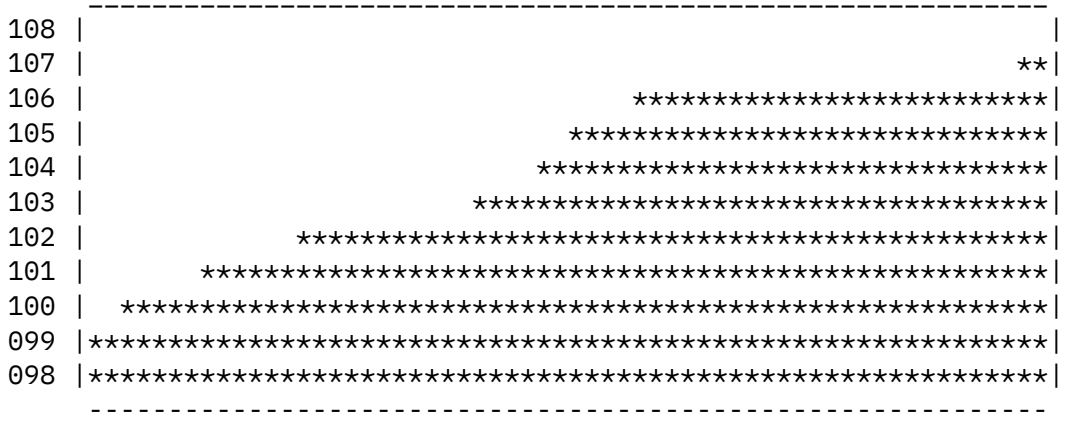
Chart Start Date: Day #362

NOTES:
This graph is determined by plotting the greater of either the planetary A-index or the Boulder A-index. Graph lines are labelled according to the severity of the activity which occurred on each day. The left-hand column represents the associated A-Index for that day.
Q = Quiet, U = Unsettled, A = Active, M = Minor Storm,
J = Major Storm, and S = Severe Storm.

CUMULATIVE GRAPHICAL CHART OF THE 10.7 CM SOLAR RADIO FLUX



GRAPHICAL ANALYSIS OF 90-DAY AVERAGE SOLAR FLUX



NOTES:
The 10.7 cm solar radio flux is plotted from data reported by the Penticton Radio Observatory (formerly the ARO from Ottawa). High solar flux levels denote higher levels of activity and a greater number of sunspot groups on the Sun. The 90-day mean solar flux graph is charted from the 90-day mean of the 10.7 cm solar radio flux.

CUMULATIVE GRAPHICAL CHART OF SUNSPOT NUMBERS

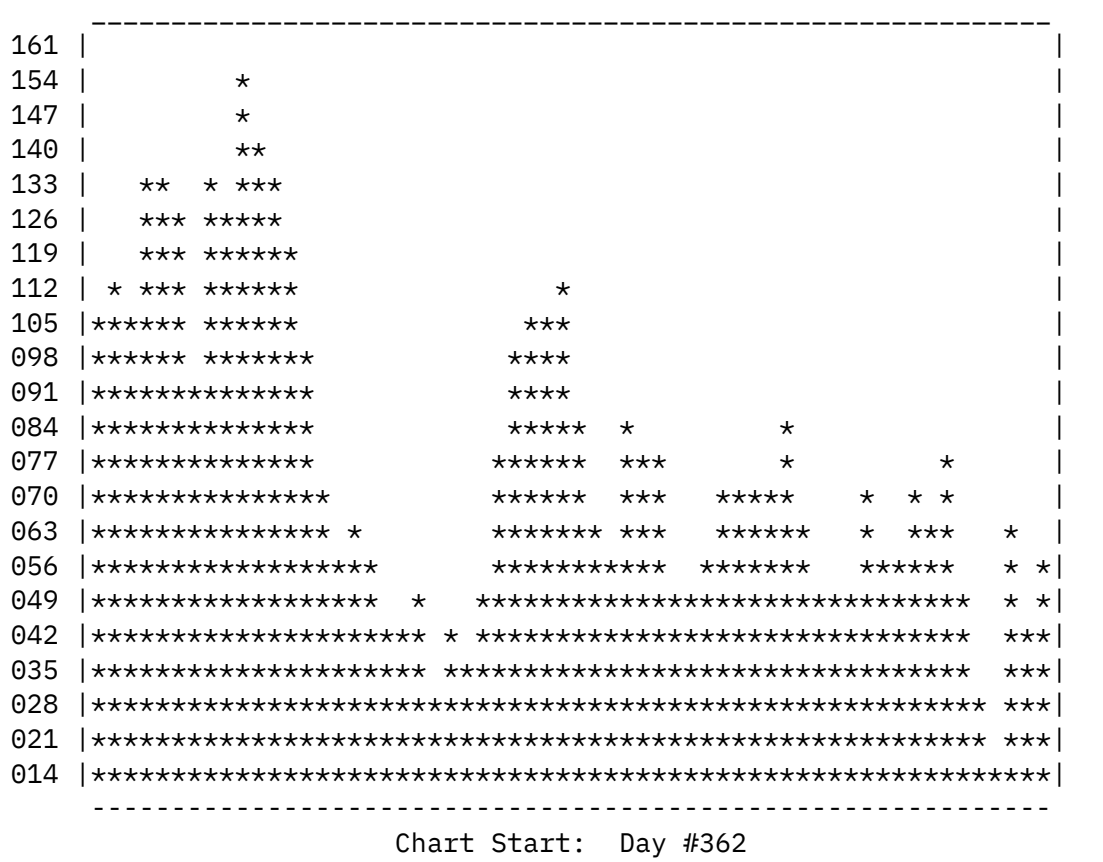
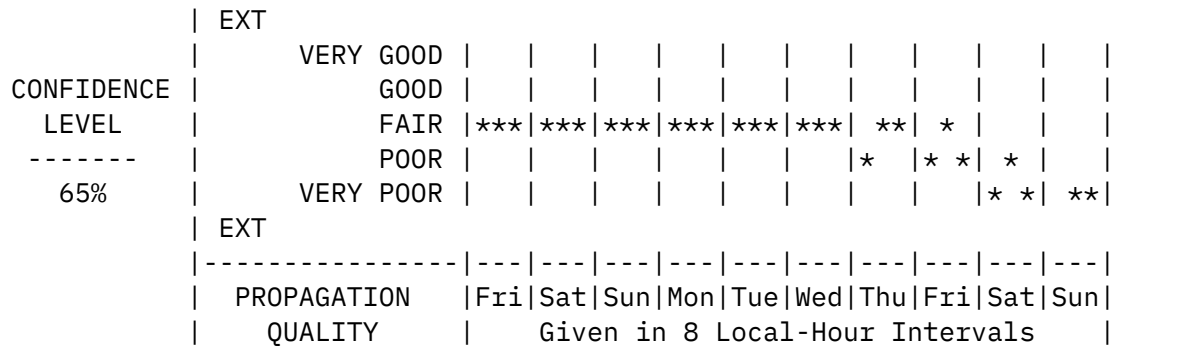


Chart Start: Day #362

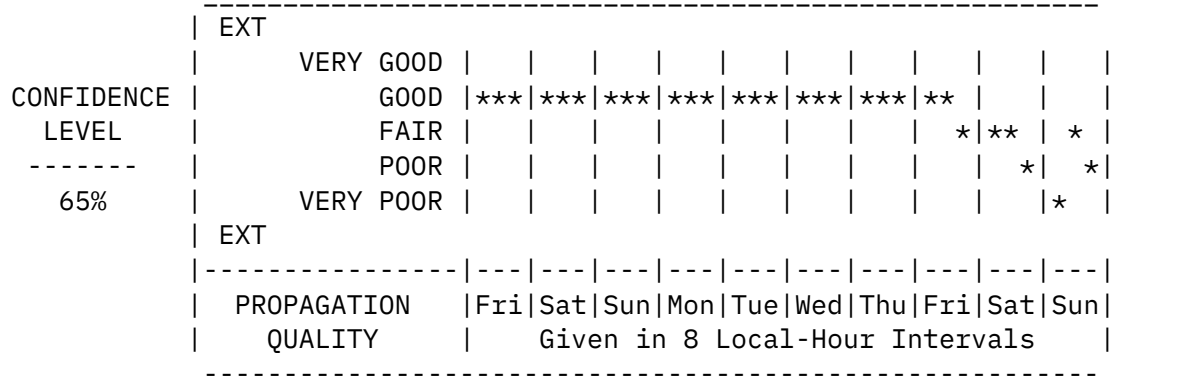
NOTES:
The graphical chart of sunspot numbers is created from the daily sunspot number counts as reported by the SESC.

HF RADIO SIGNAL PROPAGATION PREDICTIONS (25 FEB - 06 MAR)

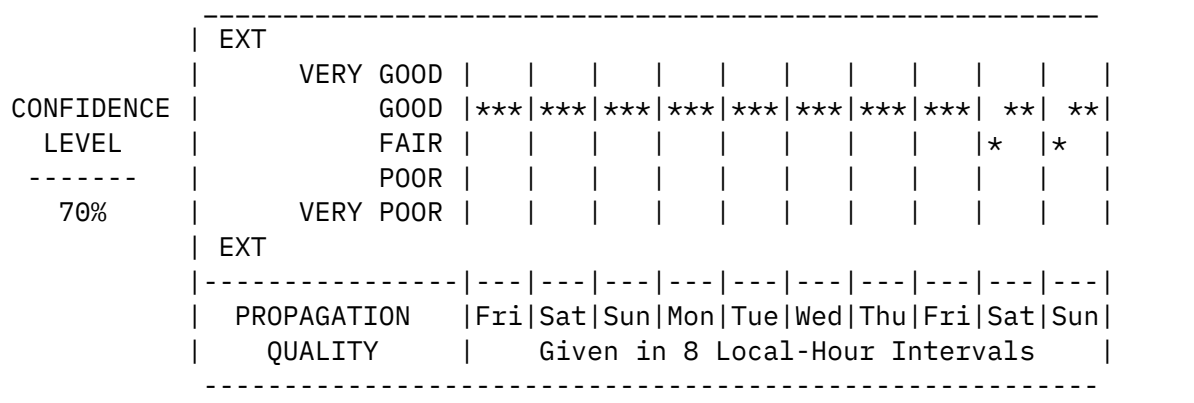
High Latitude Paths



Middle Latitude Paths



Low Latitude Paths

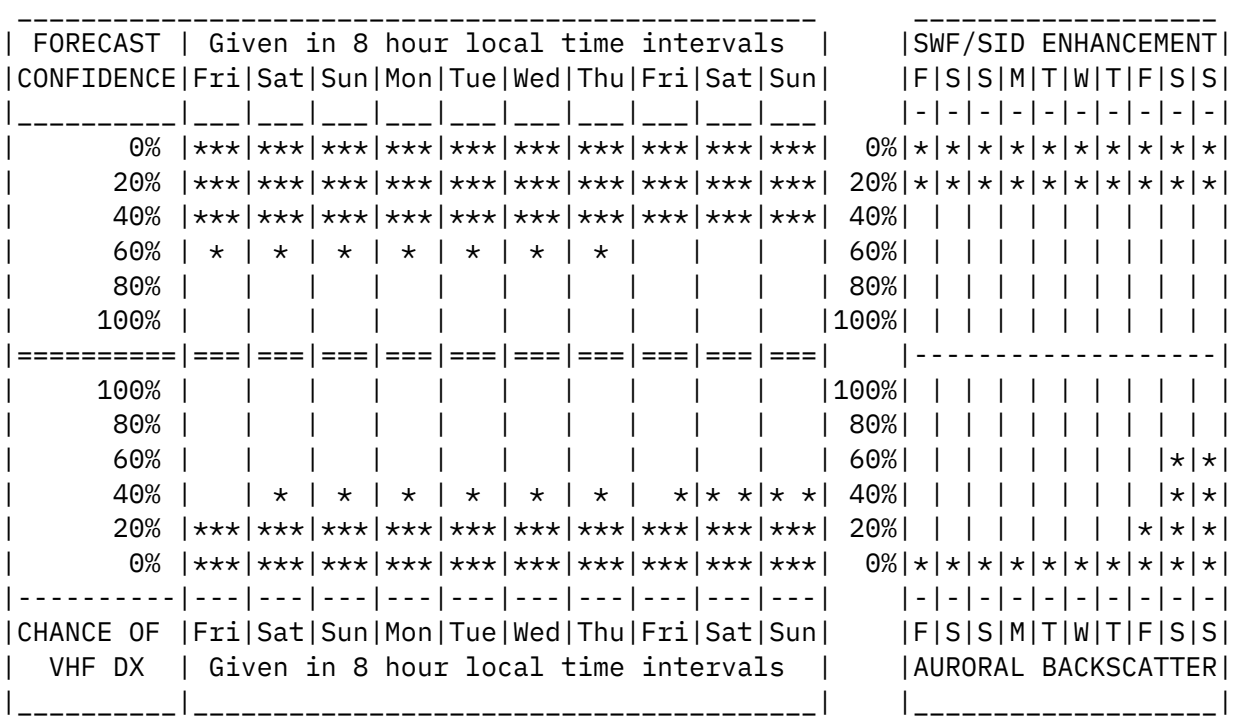


NOTES:

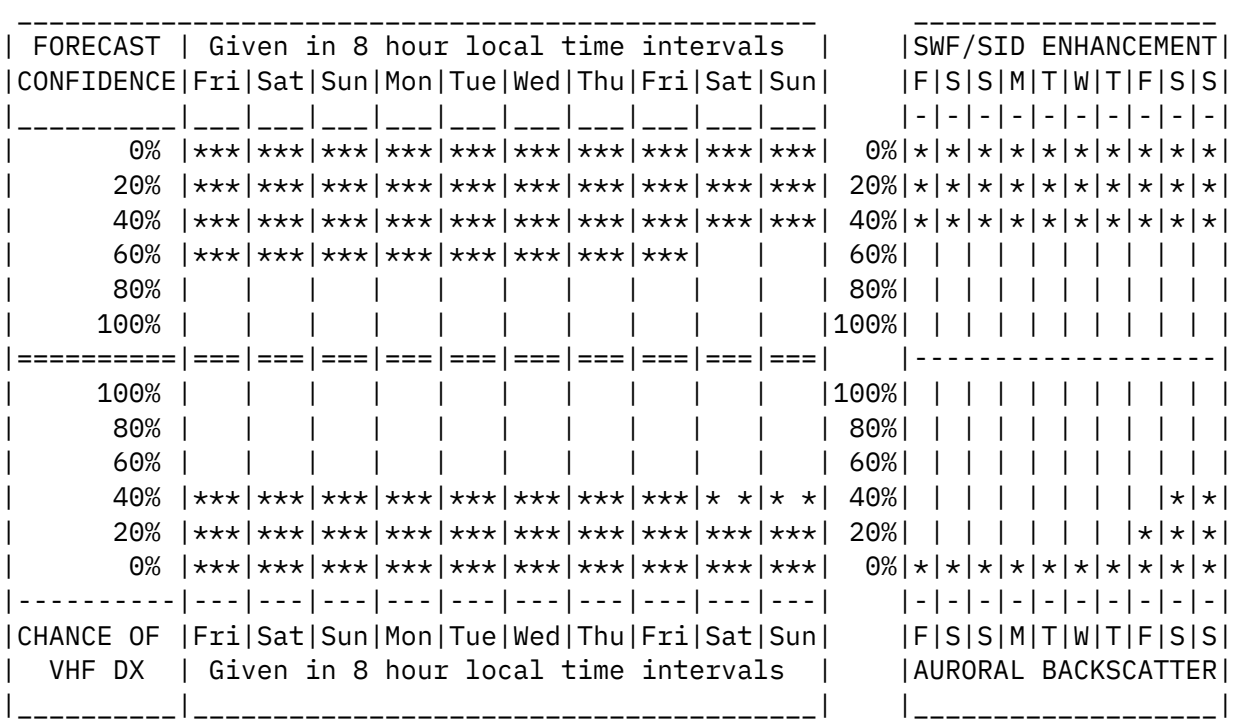
NORTHERN HEMISPHERE	SOUTHERN HEMISPHERE
High latitudes >= 55 deg. N.	High latitudes >= 55 deg. S.
Middle latitudes >= 40 < 55 deg. N.	Middle latitudes >= 30 < 55 deg. S.
Low latitudes < 40 deg. N.	Low latitudes < 30 deg. S.

POTENTIAL VHF DX PROPAGATION PREDICTIONS (25 FEB - 06 MAR)
INCLUDES SID AND AURORAL BACKSCATTER ENHANCEMENT PREDICTIONS

HIGH LAT



MIDDLE LAT



LOW LAT

FORECAST	Given in 8 hour local time intervals										SWF/SID ENHANCEMENT									
CONFIDENCE	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun		F	S	S	M	T	W	T	F	S	S
0%	***	***	***	***	***	***	***	***	***	***	0%	*	*	*	*	*	*	*	*	*	*
20%	***	***	***	***	***	***	***	***	***	***	20%	*	*	*	*	*	*	*	*	*	*
40%	***	***	***	***	***	***	***	***	***	***	40%	*	*	*	*	*	*	*	*	*	*
60%	***	***	***	***	***	***	***	***	***	***	60%										
80%											80%										
100%											100%										
100%											100%										
80%											80%										
60%	*	*	*	*	*	*	*	*			60%										
40%	***	***	***	***	***	***	***	***	***	***	40%										
20%	***	***	***	***	***	***	***	***	***	***	20%									*	*
0%	***	***	***	***	***	***	***	***	***	***	0%	*	*	*	*	*	*	*	*	*	*
CHANCE OF VHF DX	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun		F	S	S	M	T	W	T	F	S	S
	Given in 8 hour local time intervals											AURORAL BACKSCATTER									

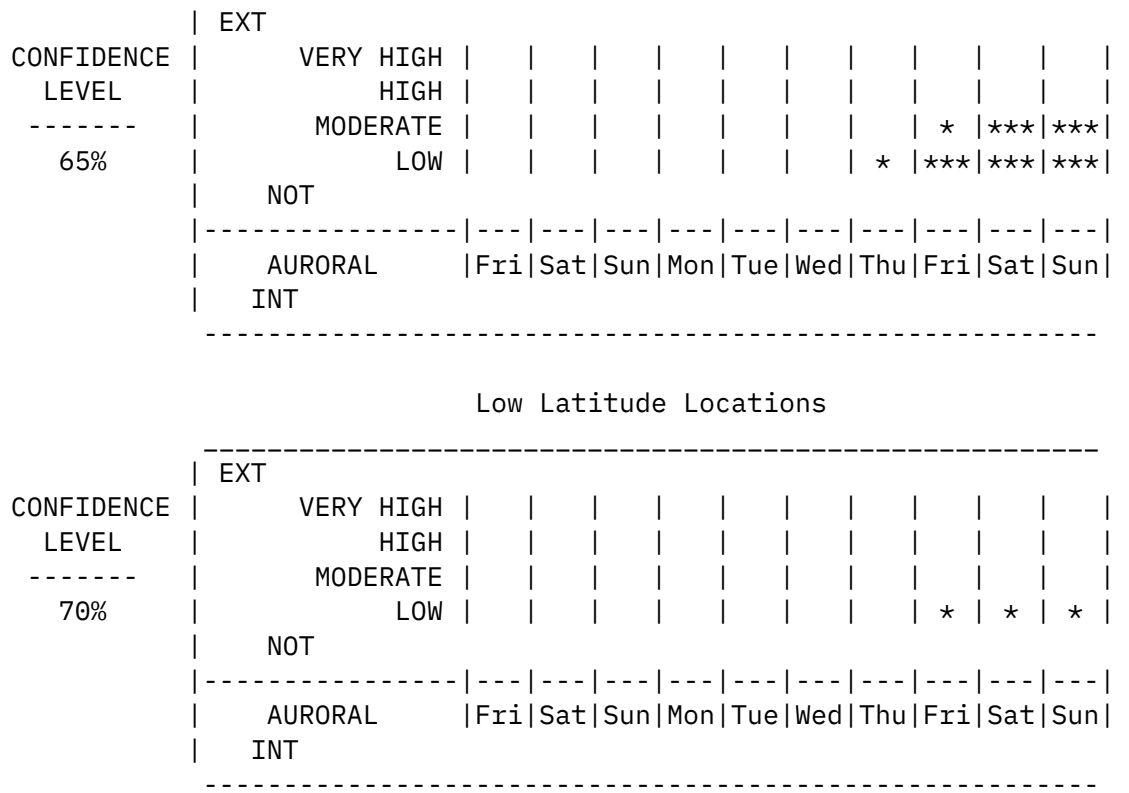
NOTES:
These VHF DX prediction charts are defined for the 30 MHz to 220 MHz bands. They are based primarily on phenomena which can affect VHF DX propagation globally. They should be used only as a guide to potential DX conditions on VHF bands. Latitudinal boundaries are the same as those for the HF predictions charts.

AURORAL ACT

High Latitude Locations

CONFIDENCE LEVEL											
65%	EXT										
	VERY HIGH										
	HIGH								*	*	**
	MODERATE							*	***	***	***
	LOW	*	*	*	*	*	**	***	***	***	***
	NOT										
	AURORAL INT	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun

Middle Latitude Locations



NOTE:
Version 2.00b of our Professional Dynamic Auroral Oval Simulation Software Package is now available. This professional software is particularly valuable to radio communicators, aurora photographers, educators, and astronomers. For more information regarding this software, contact: "Oler@Rho.Uleth.CA", or "COler@Solar.Stanford.Edu".

For more information regarding these charts, send a request for the document, "Understanding Solar Terrestrial Reports" to: "Oler@Rho.Uleth.Ca" or to: "COler@Solar.Stanford.Edu". This document, as well as others and related data/forecasts exist on the STD BBS at: (403) 756-3008.

** End of Report **

End of Info-Hams Digest V94 #219
****
****